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OHIO FARM MACHINERY ECONOMIC COST ESTIMATES FOR 1988*

Revised and Adopted for Ohio

by
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The data which follows is designed as an aid in estimating farm machinery use or function costs for 1988. The estimates are determined by formula and represent an average farming industry cost for a specific machine or machine operation.

There are two types of costs associated with owning and operating a machine: Overhead costs are incurred whether or not the machine is used, provided it is owned. Overhead costs include depreciation, interest, insurance, housing and taxes. Operating costs, which occur only when the machine is used, include fuel, lubrication, repairs and labor.

Overhead Costs: Each machine is costed over 10 years. Salvage value at 10 years of life now ranges from 16 to 30 percent according to the 1984 AGRICULTURAL ENGINEER'S YEARBOOK. Repair and maintenance calculations are based on the same source. Major purchases of new machinery are rare in 1988. Used equipment is more indicative of costs in many ways. Managers, striving for cost control, are sometimes buying a second item twinned to one now in current use.

Purchase cost, as shown here, is based on the list prices quoted by major machinery companies. According to a survey of extension agents, new farm machinery can be purchased with a 10 to 17 percent discount off list price -- with larger items having the larger discount. The tables are, therefore, based on a purchase price after these discounts. Interest and insurance rates are assumed to be 12.5 percent and .75 percent of new cost, respectively. Housing cost is assumed to be 75 cents per square foot of shelter space needed per year. There are no personal property taxes on farm machinery in Ohio.

Formulas used to compute machinery overhead costs:

$$\text{Depreciation per year} = \frac{\text{purchase cost - salvage value}}{\text{years you will use machine}}$$

$$\text{Interest per year} = \frac{\text{purchase cost + salvage value}}{2} \times \text{interest rate}$$

$$\text{Insurance per year} = \frac{\text{purchase cost + salvage value}}{2} \times \text{rate}$$

Housing per year = price per sq. foot X sq. feet shelter space required

Taxes per year = 0 (no taxes on personal property in Ohio)

Operating Costs: Fuel cost is calculated by multiplying the fuel consumption by the price of fuel, with fuel consumption assumed to be .06 gallons of diesel fuel per horsepower hour. The price of fuel is assumed to be 80 cents per gallon for diesel. All power units, tractors, combines, trucks, etc., are assumed to be diesel powered. An estimate of gasoline consumption can be made by multiplying the diesel fuel consumption by a factor of 1.36. Lubrication cost is assumed to be 10 percent of fuel cost.

The formulas for estimating the repair and maintenance costs estimate total accumulated repair costs according to the accumulated hours of use; the total costs are then broken down to a per hour cost estimate. The amount of annual use of a machine is an estimate of the number of hours a commercial farmer would use that particular machine in one year.

Labor is charged at an hourly wage rate, which includes 30 percent of benefits, of $4.25 per hour for unskilled labor and $7.00 per hour for skilled labor. Labor per acre for an operation such as plowing and disking is calculated by using the work rate on the implement instead of the tractor. Therefore, plows and disks using the same tractor have different per acre labor requirements. Less labor per acre is used in a disking operation that covers more acres per hour than in a plowing operation.

Minimum tillage planters have been included, reflecting the current interest in minimum or reduced tillage practices in Ohio.

Machine function or average cost per acre worked remained fairly constant compared to 1987 estimates. The following table compares the machinery function costs per acre for four selected items from 1985 to 1988.

Machine function	1985	1986	1987	1988
plow 6 - 16	$14.47	$12.48	$ 9.55	$ 9.71
corn planter 6-30	10.23	9.12	8.90	9.05
combine small grain	20.56	18.51	15.66	15.66
combine corn 6-30	30.42	27.42	23.38	23.56

These estimates are not necessarily representative of any one individual's cost, but can help plan the cropping operation if other data are not available. Differences in buying power, repair programs, average annual use, and overall replacement programs should be considered. Machinery costs are substantial; control of them is important. Custom charges are often based upon them. No one should do custom work unless the charge will cover operating costs including labor. Ideally all allocated per acre or hour overhead costs should also be covered by anyone offering to do custom work. The market for custom work usually does not cover all costs. The market is usually somewhere in between the operating costs and the total of operating and allocated overhead.

The following tables provide the 1988 machinery function costs broken down into several categories. Some relevant supporting data also are included.

TRACTOR AND COMBINES (WITHOUT HEADS)

Size of Tractor or Combine	Net Cost of The New Power Unit	Annual Hours of Use	-- Overhead -- Cost per Year	Overhead Cost per Hour	-- Operating -- Expense per Hour	Operating Expense per Year	-- Total Cost -- per Year of Use	Total Cost / Hour of Use	Maintenance & Repair Cost/Hr.	Diesel Use/Hr. Gallons
40 Hp	14,040	500	1,907	3.81	2.69	1,345	3,252	6.50	0.84	2.4
60 Hp	19,386	500	2,625	5.25	3.94	1,968	4,592	9.18	1.16	3.6
75 Hp	23,519	500	3,181	6.36	4.88	2,438	5,619	11.24	1.41	4.5
100 Hp	35,889	550	4,838	8.80	6.99	3,844	8,682	15.78	2.37	6.0
120 Hp	39,085	550	5,266	9.57	8.12	4,468	9,734	17.70	2.58	7.2
140 Hp	45,636	550	6,164	11.21	9.48	5,214	11,378	20.69	3.01	8.4
160 Hp	50,879	600	6,865	11.44	11.06	6,633	13,498	22.50	3.66	9.6
180 Hp	60,158	600	8,105	13.51	12.65	7,588	15,693	26.16	4.33	10.8
225 Hp 4Wd	64,174	500	8,658	17.32	13.60	6,802	15,460	30.92	3.21	13.5
250 Hp 4Wd	78,788	500	10,611	21.22	15.49	7,745	18,356	36.71	3.94	15.0
275 Hp 4Wd	89,801	500	12,083	24.17	17.20	8,598	20,680	41.36	4.49	16.5
300 Hp 4Wd	94,127	500	12,661	25.32	18.57	9,283	21,944	43.89	4.71	18.0
320 Hp 4Wd	103,342	500	13,892	27.78	19.95	9,976	23,868	47.74	5.17	19.2
350 Hp 4Wd	108,896	500	14,634	29.27	21.61	10,807	25,442	50.88	5.44	21.0
Sml Combine	55,753	300	7,852	26.17	27.02	8,107	15,959	53.20	22.40	6.0
Med Combine	66,173	300	9,334	31.11	32.13	9,640	18,974	63.25	26.59	7.2
Lrg Combine	76,575	300	10,814	36.05	37.47	11,240	22,054	73.51	30.77	8.7
Jmb Combine	95,406	300	13,459	44.86	47.57	14,272	27,731	92.44	38.33	12.0

TILLAGE EQUIPMENT

Machine	Tractor Size (HP)	Net Cost of A New Implement	-- Estimated -- Work Performed Acres/hr	Work Performed Ac/yr	Total Cost Acre	Total Cost Hour	Operating Expense /Acre	-- Total Cost / Acre -- Equiptment Tractor	Equiptment Machine	Labor Charge	Diesel Fuel Gal/Ac
Moldboard Plow 2-16	40	1,485	1.16	139	11.53	13.39	2.95	5.60	2.19	3.73	2.07
Moldboard Plow 3-16	60	3,372	1.75	209	11.04	19.27	3.22	5.26	3.29	2.48	2.06
Moldboard Plow 4-16	75	6,120	2.33	279	11.16	25.95	3.41	4.83	4.46	1.86	1.93
Moldboard Plow 5-16	100	7,187	2.91	349	11.13	32.35	3.64	5.43	4.21	1.49	2.06
Moldboard Plow 6-16	120	8,082	3.49	454	10.12	35.34	3.56	5.07	3.81	1.24	2.06
Moldboard Plow 7-16	140	9,678	4.07	529	10.05	40.91	3.59	5.08	3.90	1.06	2.06
Moldboard Plow 8-16	160	12,387	4.65	605	10.12	47.09	3.79	4.84	4.36	0.93	2.06
Moldboard Plow 9-18	225	14,522	5.89	884	9.81	57.77	3.78	5.25	3.82	0.74	2.29
Moldboard Plow 10-18	225	16,007	6.55	982	9.18	60.06	3.53	4.72	3.79	0.66	2.06
Moldboard Plow 12-18	275	17,778	7.85	1,178	9.33	73.29	3.54	5.27	3.51	0.55	2.10
Chisel Plow 10 Ft	75	1,993	4.36	436	4.53	19.77	1.29	2.58	0.96	0.99	1.03
Chisel Plow 15 Ft	120	2,961	6.55	655	4.28	28.04	1.41	2.70	0.92	0.66	1.10
Chisel Plow 17 Ft	140	3,390	7.42	742	4.30	31.89	1.45	2.79	0.93	0.58	1.13
Chisel Plow 20 Ft	160	7,154	8.73	873	4.64	40.53	1.58	2.58	1.57	0.50	1.10
Chisel Plow Wing 24 Ft	225	9,169	10.47	1,047	4.98	52.17	1.63	2.95	1.62	0.41	1.29
Chisel Plow Wing 29 Ft	250	10,518	12.65	1,265	4.77	60.40	1.54	2.90	1.53	0.34	1.19
Chisel Plow Wing 35 Ft	300	11,833	15.27	1,527	4.58	69.91	1.51	2.87	1.42	0.28	1.18
Field Cultivator 12 Ft	75	2,204	6.06	727	3.19	19.33	0.92	1.85	0.62	0.72	0.74
Field Cultivator 18 Ft	100	4,088	8.73	1,047	3.06	26.75	0.95	1.81	0.76	0.50	0.69
Field Cultivator 28 Ft	160	7,871	13.58	1,629	2.88	39.08	1.00	1.66	0.90	0.32	0.71
Field Cultivator 37 Ft	225	9,760	17.94	2,153	2.80	50.31	0.93	1.72	0.84	0.24	0.75
Field Cultivator 50 Ft	250	13,901	24.24	2,909	2.57	62.26	0.82	1.51	0.88	0.18	0.62

Machine	Tractor Size (HP)	Net Cost of A New Implement	-- Estimated -- Work Performed Acres/hr	Ac/yr	Total Cost Acre	Total Cost Hour	Operating Expense /Acre	-- Total Cost / Acre -- Equiptment Tractor	Machine	Labor Charge	Diesel Fuel Gal/Ac
Disk Chisel 9 Ft	100	5,936	3.82	382	7.81	29.81	2.11	4.13	2.54	1.14	1.57
Disk Chisel 11 Ft	120	6,462	4.91	638	6.24	30.63	1.94	3.61	1.75	0.88	1.47
Disk Chisel 14 Ft	140	8,074	6.00	1,200	5.53	33.19	1.97	3.45	1.36	0.72	1.40
Min-Til Planter 4-36	60	8,595	3.05	214	12.54	38.30	2.31	3.01	6.87	2.66	1.18
Min-Til Planter 6-36	75	13,230	4.58	321	11.23	51.43	2.12	2.45	7.00	1.77	0.98
Min-Til Planter 6-30	75	12,136	3.82	267	12.78	48.80	2.44	2.94	7.71	2.13	1.18
Min-Til Planter 8-30	100	17,544	5.09	356	13.01	66.25	2.63	3.10	8.32	1.60	1.18
Min-Til Planter 8-36	100	21,322	6.11	428	12.30	75.17	2.42	2.58	8.39	1.33	0.98
Min-Til Planter 12-30	160	28,220	7.64	535	12.88	98.35	2.80	2.95	8.87	1.06	1.26
Tandem Disk 10 Ft	60	4,416	4.85	485	4.30	20.86	0.98	1.89	1.51	0.89	0.74
Tandem Disk 16 Ft	75	6,566	7.76	776	3.42	26.54	0.78	1.45	1.41	0.56	0.58
Tandem Disk 17 Ft	75	9,198	8.24	824	3.71	30.57	0.79	1.36	1.82	0.53	0.55
Tandem Disk 20 Ft	100	9,557	9.70	970	3.71	35.95	0.90	1.63	1.63	0.45	0.62
Tandem Disk 21 Ft	100	11,034	10.18	1,018	3.75	38.18	0.88	1.55	1.77	0.43	0.59
Tandem Disk 24 Ft	120	12,405	11.64	1,164	3.63	42.25	0.89	1.52	1.74	0.37	0.62
Tandem Disk 28 Ft	140	14,870	13.58	1,358	3.62	49.16	0.90	1.52	1.78	0.32	0.62
Tandem Disk 32 Ft	160	17,272	15.52	1,552	3.53	54.76	0.91	1.45	1.80	0.28	0.62
Tandem Disk 40 Ft	180	25,081	19.39	1,939	3.65	70.80	0.88	1.35	2.08	0.22	0.56
Disk Offset 14 Ft	140	8,870	6.11	611	6.50	39.70	1.81	3.39	2.40	0.71	1.37
Disk Offset 16 Ft	160	9,661	6.98	698	6.14	42.86	1.83	3.22	2.30	0.62	1.38
Disk Offset 18 Ft	180	10,389	7.85	785	6.08	47.76	1.85	3.33	2.20	0.55	1.38
Disk-Wing Offset 21 Ft	225	11,646	9.16	916	5.93	54.34	1.71	3.37	2.08	0.47	1.47
Disk-Wing Offset 23 Ft	225	15,462	10.04	1,004	6.01	60.36	1.63	3.08	2.50	0.43	1.35
Landplane 45-12 Ft	180	7,416	6.40	480	7.64	48.92	2.29	4.09	2.84	0.72	1.69
Landplane 55-14 Ft	225	15,908	8.00	600	9.12	72.95	2.23	3.86	4.68	0.57	1.69
Landplane 70-14 Ft	225	16,871	7.47	560	10.15	75.75	2.43	4.14	5.39	0.61	1.81
Springtooth Drag 30	60	2,079	16.00	480	1.53	24.43	0.27	0.57	0.67	0.29	0.23
Springtooth Drag 48	75	2,596	27.93	977	1.02	28.44	0.19	0.40	0.45	0.16	0.16

PLANTING EQUIPMENT

Machine	Tractor Size (HP)	Net Cost of A New Implement	-- Estimated -- Work Performed Acres/hr	Ac/yr	Total Cost Acre	Total Cost Hour	Operating Expense /Acre	-- Total Cost / Acre -- Equiptment Tractor	Machine	Labor Charge	Diesel Fuel Gal/Ac
Corn Planter 4-36	40	8,554	3.93	275	9.04	35.52	1.48	1.66	5.32	2.07	0.61
Corn Planter 6-36	60	13,552	5.89	412	8.51	50.14	1.51	1.56	5.57	1.38	0.61
Corn Planter 6-30	60	11,971	4.91	344	9.44	46.36	1.69	1.87	5.92	1.65	0.73
Corn Planter 8-30	75	17,226	6.55	458	9.31	60.96	1.70	1.72	6.36	1.24	0.69
Corn Planter 12-30	100	24,696	9.82	687	8.52	83.61	1.63	1.61	6.08	0.83	0.61
Potato Filler		6,401	5.75	322	3.22	18.51	0.28	0.00	3.22	0.00	0.02

Machine	Tractor Size (HP)	Net Cost of A New Implement	-- Estimated -- Work Performed Acres/hr	Ac/yr	Total Cost Acre	Total Cost Hour	Operating Expense /Acre	-- Total Cost / Acre -- Equiptment Tractor	Machine	Labor Charge	Diesel Fuel Gal/Ac
Potato Row Marker 4 Row	120	7,827	4.98	214	10.61	52.84	1.76	3.55	5.32	1.74	1.45
Potato Row Marker 6 Row	140	11,887	7.47	321	9.32	69.58	1.40	2.77	5.38	1.16	1.12
Potato Planter 4 Row	120	20,088	3.83	214	22.92	87.80	3.62	4.62	14.66	3.64	1.88
Potato Planter 6 Row	140	29,475	5.75	322	20.38	117.07	3.11	3.60	14.35	2.43	1.46
Beet Planter 12 Row	100	19,800	4.67	280	16.60	77.48	2.80	3.38	11.36	1.86	1.29
Grain Drill Pw 12 Ft	40	7,535	4.78	382	6.51	31.11	1.23	1.36	3.52	1.63	0.50
Grain Drill Pw 14 Ft	40	8,883	5.57	446	6.11	34.07	1.16	1.17	3.55	1.39	0.43
Grain Drill Pw 16 Ft	60	10,842	6.37	510	6.45	41.08	1.34	1.44	3.79	1.22	0.57
Grain Drill Pw 20 Ft	75	13,002	7.96	637	6.02	47.97	1.30	1.41	3.64	0.98	0.57
Grain Drill Pw 24 Ft	75	15,603	9.56	765	5.62	53.75	1.20	1.18	3.64	0.81	0.47
Grain Drill Pw 28 Ft	100	18,720	11.15	892	5.85	65.22	1.34	1.42	3.74	0.70	0.54

MAINTENANCE EQUIPMENT

Machine	Tractor Size (HP)	Net Cost of A New Implement	-- Estimated -- Work Performed Acres/hr	Ac/yr	Total Cost Acre	Total Cost Hour	Operating Expense /Acre	-- Total Cost / Acre -- Equiptment Tractor	Machine	Labor Charge	Diesel Fuel Gal/Ac
Cultivator 4-36	40	2,884	4.65	465	3.41	15.87	0.71	1.40	1.06	0.95	0.52
Cultivator 6-36	60	4,158	6.98	698	2.97	20.74	0.69	1.32	1.02	0.63	0.52
Cultivator 6-30	60	3,273	5.82	582	3.30	19.23	0.80	1.58	0.97	0.76	0.62
Cultivator 8-30	75	4,649	7.76	776	3.05	23.64	0.76	1.45	1.03	0.57	0.58
Cultivator 12-30	140	5,948	11.64	1,164	3.02	35.19	0.93	1.78	0.87	0.38	0.72
Ridge-Cultivator 4-36	75	5,440	4.65	465	5.32	24.78	1.30	2.41	1.95	0.96	0.97
Ridge-Cultivator 6-36	100	7,615	6.98	698	4.72	32.97	1.24	2.26	1.82	0.64	0.86
Ridge-Cultivator 6-30	100	6,253	5.82	582	5.27	30.64	1.44	2.71	1.79	0.76	1.03
Ridge-Cultivator 8-36	100	9,529	9.31	931	3.88	36.12	0.98	1.70	1.70	0.48	0.64
Ridge-Cultivator 8-30	100	7,983	7.76	776	4.32	33.51	1.13	2.03	1.71	0.57	0.77
Ridge-Cultivator 12-30	160	13,799	11.64	1,164	4.33	50.40	1.21	1.93	1.96	0.44	0.83
Rotary Hoe 16 Ft	40	2,527	10.86	434	1.94	21.05	0.28	0.60	0.95	0.39	0.22
Potato Cultivator 4 Row	75	3,200	6.13	889	3.25	19.90	0.98	1.83	0.69	0.72	0.73
Potato Cultivator 6 Row	75	5,029	9.19	1,287	2.45	22.53	0.71	1.22	0.75	0.48	0.49
Beet Cultivator 12 Ro	100	7,650	6.00	360	6.63	39.75	1.32	2.63	3.26	0.74	1.00
Sprayer 30 Ft	40	3,438	14.18	1,135	1.64	23.19	0.28	0.46	0.56	0.62	0.17
Sprayer 50 Ft	60	4,347	23.64	2,364	1.12	26.45	0.24	0.39	0.36	0.37	0.15
Sprayer Hi Pres 50 Ft	60	17,370	23.64	2,364	2.11	49.98	0.47	0.39	1.36	0.37	0.15
Anhydrous Applicator	160	13,110	12.73	509	6.65	84.59	1.61	1.77	4.43	0.44	0.75
Fertilizer Spreader 40	60	6,822	38.79	1,164	1.34	52.00	0.22	0.24	0.96	0.15	0.09
Shredder 12 Ft	60	5,947	4.36	436	5.36	23.41	1.22	2.10	2.29	0.97	0.82
Light Truck (New)		19,931	1.52	606	13.80	20.91	6.28	0.00	11.00	2.81	1.32

Machine	Tractor Size (HP)	Net Cost of A New Implement	-- Estimated -- Work Performed Acres/hr	Ac/yr	Total Cost Acre	Total Cost Hour	Operating Expense /Acre	-- Total Cost / Acre -- Equiptment Tractor	Machine	Labor Charge	Diesel Fuel Gal/Ac
Medium Truck (New)		29,922	1.52	606	19.05	28.86	9.18	0.00	16.24	2.81	1.65
Heavy Truck (New)		45,318	1.52	606	27.55	41.75	14.10	0.00	24.75	2.81	2.75
Manure Spreader 150 Bu	75	3,893	3.49	349	7.14	24.93	2.46	3.22	2.68	1.24	1.29
Manure Spreader 225 Bu	100	5,006	3.49	349	9.21	32.16	3.36	4.52	3.45	1.24	1.72
Manure Spreader 400 Bu	100	10,197	4.65	465	9.55	44.45	3.58	3.39	5.23	0.93	1.29
Gravity Box 185 Bu	60	1,373	1.65	215	9.67	16.00	2.73	5.55	1.55	2.57	2.18
Gravity Box 240 Bu	75	1,782	1.65	215	11.30	18.70	3.40	6.79	1.94	2.57	2.72
Baled Hay Wagon	40	1,483	3.78	945	4.47	16.91	0.93	1.72	0.50	2.25	0.63
Forage Wagon 14 Ft	40	5,099	1.65	215	11.43	18.92	2.93	3.93	4.93	2.57	1.45
Forage Wagon 16 Ft	40	6,489	1.65	215	12.62	20.88	3.28	3.93	6.12	2.57	1.45
Medium Truck (Used)		18,540	1.52	606	13.40	20.31	6.17	0.00	10.60	2.81	1.65
Heavy Truck (Used)		29,922	1.52	606	19.92	30.18	10.03	0.00	17.12	2.81	2.75

HARVESTING EQUIPMENT

Machine	Tractor Size (HP)	Net Cost of A New Implement	-- Estimated -- Work Performed Acres/hr	Ac/yr	Total Cost Acre	Total Cost Hour	Operating Expense /Acre	-- Total Cost / Acre -- Equiptment Tractor	Machine	Labor Charge	Diesel Fuel Gal/Ac
Mower-Cond 9 Ft	60	8,607	4.09	327	7.66	31.32	1.44	2.25	4.27	1.14	0.88
Swather-Cond 12 Ft		26,632	5.45	436	10.41	56.78	0.91	0.00	9.63	0.78	0.55
Swather-Cond 15 Ft		28,774	6.82	545	8.94	60.98	0.76	0.00	8.32	0.62	0.44
Swather 12 Ft		17,325	5.82	465	6.79	39.53	0.70	0.00	6.06	0.73	0.52
Swather 15 Ft		18,108	7.27	582	5.67	41.21	0.57	0.00	5.08	0.58	0.41
Swather 18 Ft		21,685	8.73	698	5.50	48.04	0.51	0.00	5.02	0.49	0.34
Swather 20 Ft		22,653	9.70	776	5.15	49.98	0.47	0.00	4.72	0.44	0.31
1 Ton Stacker	60	11,250	4.15	829	7.14	29.61	2.04	2.22	3.05	1.87	0.87
3 Ton Stacker	75	18,601	4.84	1,064	8.11	39.22	2.67	2.32	4.18	1.61	0.93
6 Ton Stacker	100	26,953	5.53	1,548	9.32	51.54	3.82	2.86	5.06	1.41	1.09
Baler Pto Twine	40	8,210	3.78	756	6.25	23.62	1.58	1.72	2.47	2.05	0.63
Round Baler 1500 Lb	60	13,379	4.64	927	6.21	28.77	1.99	1.98	3.21	1.02	0.78
Round Baler 1000 Lb	60	10,309	3.01	603	8.44	25.43	2.68	3.05	3.82	1.57	1.19
Rotary Mower 6 Ft.	40	4,119	2.73	273	6.82	18.59	1.68	2.38	2.87	1.56	0.88
Rake (Hyd) 9 Ft	40	2,682	3.49	698	4.06	14.16	1.16	1.86	0.98	1.22	0,69
Forage Harvester 1 Row	60	12,308	0.95	95	39.55	37.40	7.16	9.71	21.62	8.22	3.81
Forage Harvester 2 Row	100	16,119	1.65	165	30.42	50.34	6.46	9.54	16.19	4.70	3.63
Forage Harvester 2 Row		58,121	2.04	305	38.29	77.98	7.54	0.00	34.48	3.82	3.63
Forage Harvester 3 Row		67,687	3.05	458	29.31	89.52	5.82	0.00	26.76	2.54	2.78
Forage Blower Lg	60	3,632	1.00	50	24.21	24.21	4.41	9.18	10.78	4.25	3.60

Machine	Tractor Size (HP)	Net Cost of A New Implement	-- Estimated -- Work Performed Acres/hr	Ac/yr	Total Cost Acre	Total Cost Hour	Operating Expense /Acre	-- Total Cost / Acre -- Equiptment Tractor	Machine	Labor Charge	Diesel Fuel Gal/Ac
Corn Picker 2-36	40	17,273	1.42	213	24.56	34.83	4.79	4.59	14.50	5.48	1.69
Picker-Sheller 2-Row	60	15,391	1.49	223	23.71	35.31	5.09	6.17	12.33	5.22	2.42
Combine Sm Grain Sml	Sml	5,954	4.10	819	16.30	66.77	6.97	12.98	1.42	1.90	1.46
Combine Sm Grain Med	Med	7,002	4.73	945	16.47	77.86	7.18	13.38	1.45	1.64	1.52
Combine Sm Grain Lge	Lrg	7,745	6.30	1,261	14.10	88.86	6.26	11.66	1.20	1.23	1.38
Combine Soybeans Sml	Sml	7,146	3.58	717	18.95	67.95	8.05	14.84	1.95	2.17	1.67
Combine Soybeans Med	Med	7,407	4.14	827	18.92	78.25	8.23	15.29	1.75	1.88	1.74
Combine Soybeans Lge	Lrg	7,750	4.96	993	17.91	88.89	7.95	14.81	1.53	1.57	1.75
Combine Corn 3-30 Sm	Sml	8,636	1.77	355	39.13	69.37	16.50	30.01	4.74	4.38	3.38
Combine Corn 2-38 Sm	Sml	5,441	1.49	298	44.52	66.29	19.09	35.72	3.57	5.22	4.03
Combine Corn 3-38 Sm	Sml	9,554	2.25	449	31.29	70.25	13.13	23.69	4.14	3.46	2.67
Combine Corn 4-36 Md	Med	12,006	2.84	567	29.15	82.69	12.42	22.30	4.12	2.74	2.54
Combine Corn 4-30 Md	Med	11,767	2.60	520	31.70	82.43	13.52	24.33	4.39	2.99	2.77
Combine Corn 6-30 Lg	Lrg	15,888	3.90	780	24.80	96.71	10.65	18.85	3.96	1.99	2.23
Combine Corn 8-30 Lg	Lrg	20,491	4.73	945	21.41	101.19	9.04	15.55	4.21	1.64	1.84
Combine Corn 12-30 Jmb	Jmb	29,189	7.09	1,418	18.12	128.45	7.77	13.04	3.98	1.10	1.69
Potato Harvester Seed 2	120	39,989	1.49	320	49.37	73.75	13.79	11.85	26.01	11.52	4.82
Potato Harvester 2 Row	120	39,989	1.99	319	40.81	81.28	9.65	8.89	23.29	8.64	3.61
Rotary Disk Bean Cutter	100	5,944	5.20	416	6.79	35.32	1.54	3.04	2.26	1.49	1.15
Beet Lifter 4 Row	100	32,370	3.47	277	25.19	87.27	3.98	4.56	18.39	2.24	1.73
Beet Lifter 6 Row	120	40,670	5.20	416	20.31	105.61	3.21	3.40	15.41	1.49	1.38
Beet Topper 4 Row	75	12,600	3.11	249	13.84	43.05	2.35	3.61	7.98	2.25	1.45
Beet Topper 6 Row	100	13,500	4.67	373	10.61	49.53	2.05	3.38	5.73	1.50	1.29
Beet Wagon 8 Ton	75	7,200	3.47	277	8.72	30.22	1.81	3.24	4.25	1.23	1.30